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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,358	09/19/2003	William Edward Starnier	CVC-0004	8362
23377	7590	03/24/2006	EXAMINER	
WOODCOCK WASHBURN LLP ONE LIBERTY PLACE, 46TH FLOOR 1650 MARKET STREET PHILADELPHIA, PA 19103			FEELY, MICHAEL J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Ch

<b>Office Action Summary</b>	<b>Application No.</b> 10/666,358	<b>Applicant(s)</b> STARNER ET AL.	
	<b>Examiner</b> Michael J. Feely	<b>Art Unit</b> 1712	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 44-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0404</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group II (claims 20-43) in the reply filed on January 09, 2006 is acknowledged. The traversal is on the ground(s) that the search is not burdensome for the Examiner. This is not found persuasive because: each group has attained recognition in the art as a separate subject for inventive effort, and also a separate field of search.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-19 and 44-51 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 09, 2006.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "the compound of claim 22". There is insufficient antecedent basis for this limitation in the claim. It should refer to --the composition of claim 22--

***Claim Rejections - 35 USC § 103***

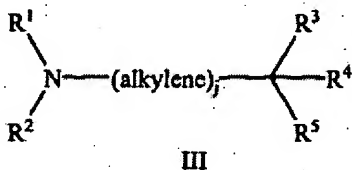
5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

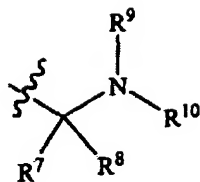
7. Claims 20-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nugent, Jr. et al. (US Pat. No. 5,438,109).

Regarding claims 20 and 25-43, Nugent, Jr. et al. disclose: (20) a polyepoxy resin composition comprising a compound of formula III:



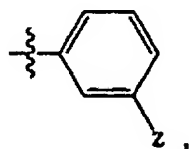
wherein R<sup>1</sup> and R<sup>2</sup> are each independently alkyl or -(alkylene)-epoxyethyl; R<sup>3</sup> is alkyl, aralkyl, or aryl, wherein said alkyl, aralkyl or aryl is optionally substituted with 0-5 Z; Z is:

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$R^7$  and  $R^8$  are each independently H, alkyl or aryl;  $R^9$  are each independently alkyl or – (alkylene)-epoxyethyl;  $j$  is the integer 0 or 1; provided that at least two of  $R^1$ ,  $R^2$ ,  $R^9$  and  $R^{10}$  are –(alkylene)epoxyethyl (Abstract; column 10, line 44 through column 11, line 63; *column 6, line 60 through column 7, line 12*); (27) further comprising water (column 11, lines 2-63; column 13, lines 29-37);

(25) wherein said aryl is:

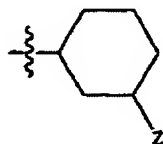


wherein  $R^7$  and  $R^8$  are each H, wherein Z is  $-\text{CH}_2\text{NR}^9\text{R}^{10}$ , and each of  $R^1$ ,  $R^2$ ,  $R^9$ , and  $R^{10}$  is:



(column 6, line 60 through column 7, line 12); (29) further comprising water (column 11, lines 2-63; column 13, lines 29-37);

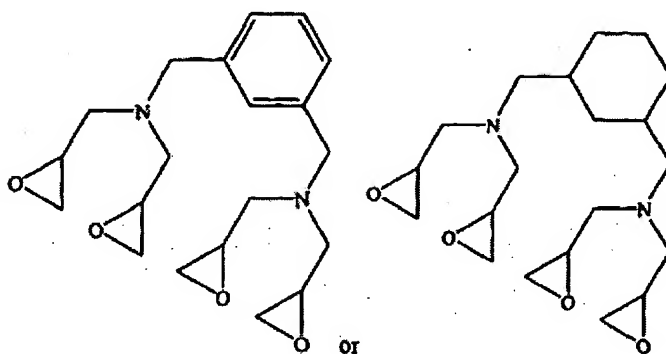
(30) wherein  $R^3$  is:



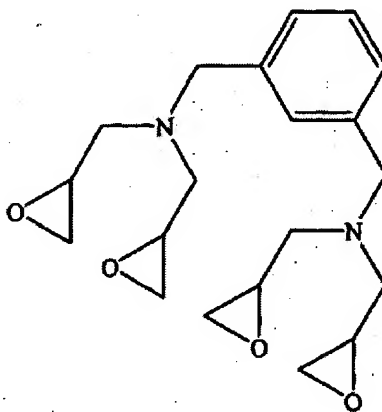
(column 6, line 60 through column 7, line 12);

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(31) a coating produced from a mixture comprising: (a) the polyepoxy resin composition of claim 20; and (b) a curative (Abstract; column 10, line 44 through column 11, line 63; *column 6, line 60 through column 7, line 12*); (33) wherein the compound of formula III of said polyepoxy resin is:

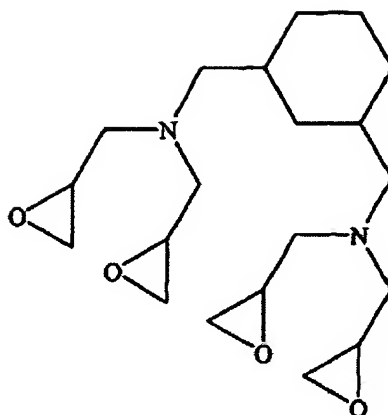


(column 6, line 60 through column 7, line 12); (34) wherein said formula III compound is:



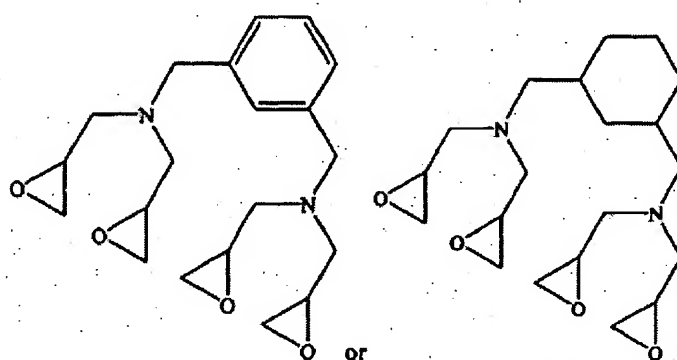
(column 6, line 60 through column 7, line 12); (35) wherein said formula III compound is:

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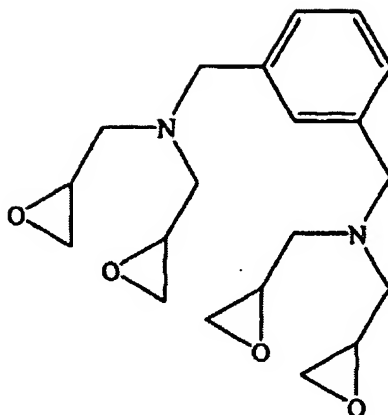
(column 6, line 60 through column 7, line 12);

(37) a kit for forming a coating produced from a mixture comprising the polyepoxy resin composition of claim 20 (Abstract; column 10, line 44 through column 11, line 63; *column 6, line 60 through column 7, line 12*); (38) further comprising water (column 11, lines 2-63; column 13, lines 29-37); (39) further comprising a curative (Abstract; column 10, line 44 through column 11, line 63; *column 6, line 60 through column 7, line 12*); (41) wherein the compound of formula III is:

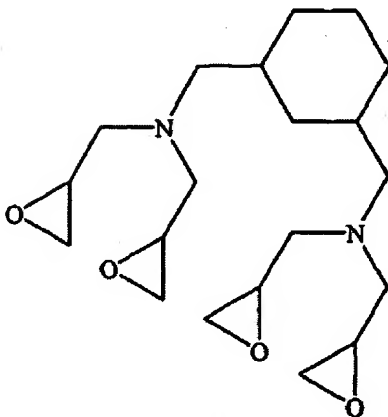


(column 6, line 60 through column 7, line 12); (42) wherein said formula III compound is:

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(column 6, line 60 through column 7, line 12); (43) wherein said formula III compound is:



(column 6, line 60 through column 7, line 12).

Nugent, Jr. et al. are deficient in that they do not explicitly disclose: (20) a carboxylic acid; (26 & 28) wherein said composition is substantially water soluble; and (32, 36 & 40) wherein the carboxylic acid is acetic acid.

Nugent, Jr. et al. disclose a one-step reaction between a polyepoxide and a polyamine, wherein preferably polyepoxides include N,N,N',N'-tetrakis(oxiranylmethyl)-1, 3-benzene-dimethanamine and N,N,N',N'-tetrakis(oxiranylmethyl)-1, 3-cyclohexane-dimethanamine (*see column 6, line 60 through column 7, line 12*). In the one step reaction, "no substantial pre-reaction is involved, but initiation of the reaction of the polyepoxide with the polyamine is

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delayed during an ingestion period of about 30 to 60 minutes at room temperature following mixing the two reactive components and before the composition is applied onto a substrate,” (column 11, lines 3-9). A solvent is also used for this mixture, wherein, “The resin may also be in an aqueous medium i.e., the ungelled amine-functional polymeric resin may be an aqueous solution or dispersion. For example, when the polyepoxide used in forming the reaction product is a water-soluble polyepoxide, e.g., the polyglycidyl ether of an aliphatic diol such as butanediol, the ungelled amine-functional polymeric resin can be utilized as an aqueous solution. *Otherwise, with water-insoluble polyepoxides, the ungelled amine-functional polymeric resin can have sufficient amine groups neutralized with an organic acid, such as formic acid, lactic acid, or acetic acid, or with inorganic acid, such as hydrochloric acid or phosphoric acid, to allow solubilization of the ungelled amine-functional polymeric resin in the aqueous medium. An organic acid is preferably used,*” (column 11, lines 48-63).

Nugent, Jr. et al. discuss the presence of acetic acid with respect to the final reaction product; however, it appears that this organic acid would have been present in the solvent system. This solvent system (including aqueous) is present both during the 30 to 60 minute ingestion period and after the reaction takes place between the polyepoxide and the polyamine – *see Examples*. Therefore, the instantly claimed invention of claims 20 and 25-43 would have been inherently or obviously satisfied during the ingestion period of Nugent, Jr. et al. because the addition of acetic acid would have imparted water-solubility to the reaction system both before and after the reaction between the polyepoxide and the polyamine.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add (20) a carboxylic acid, such as (32, 36 & 40) acetic acid, (26 & 28) imparting

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water-solubility, during the 30 to 60 minute ingestion period of the one-step reaction of Nugent Jr. et al. because: (1) Nugent et al. disclose numerous solvent systems, including an aqueous system featuring and acetic acid used to aid water-solubility through neutralization; and (2) Nugent et al. disclose that the solvent system is present both before and after the reaction between the polyepoxide and the polyamine.

Regarding claims 21-24, Nugent et al. do not explicitly disclose: (21) wherein the ratio of carboxylic acid equivalents to amine equivalents of the compound of formula III is at least about 0.8; (22) of about 0.8 to about 5; (23) of about 0.8 to about 2; and (24) of about 0.8 to about 1.5.

The teachings of Nugent, Jr. et al. establish that the amount of acetic acid is a result effective variable wherein a proper amount is required to neutralize the system, imparting water-solubility. In light of this, it has been found that “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and, “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the claimed ranges set forth in claims (21-24) in the composition of Nugent, Jr. et al. because Nugent, Jr. et al. establish that this is a result effective variable, and it has been found that it is not inventive to optimize a result effective variable by routine experimentation.

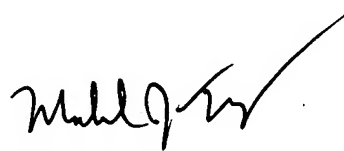
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*Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael J. Feely  
Primary Examiner  
Art Unit 1712

March 20, 2006

**MICHAEL FEELY  
PRIMARY EXAMINER**